

## Lecture 22

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### *Pesticides, Herbicides, PCBs, PAHs and By-Products of Manufacturing Processes*

Reading Assignment: Manahan Chapter 7

Homework Assignment: Chapter 7, Problems 5, 6, 8, 10, 13, 16 & 17

- Summary and Important Terms for Chapter 7

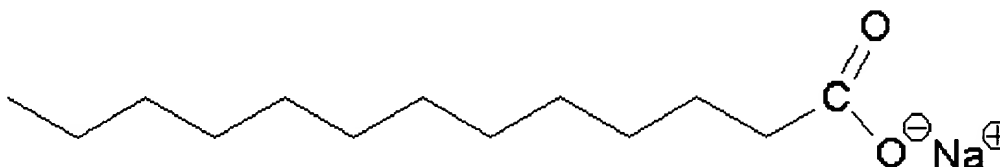
Links and Additional Resources:

Molecular Models as the Okangan University College Web Site

NOTE: The 3-D structures included in this lecture require a plug-in for your browser called Chime. It is available free from the MDL Web site MDLChime Plug-in. Although Chime is configured to work with IE and Netscape, we recommend using Netscape 4.80 with Chime 2.60 for optimum results.

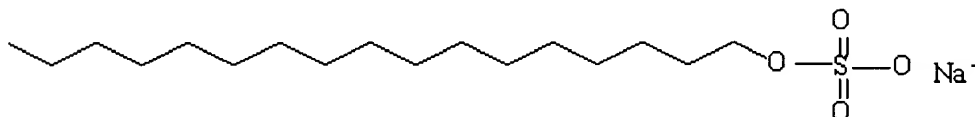
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#### Soap

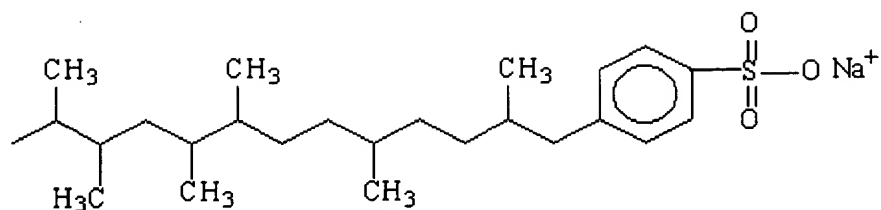


3-D structure of decanoic acid

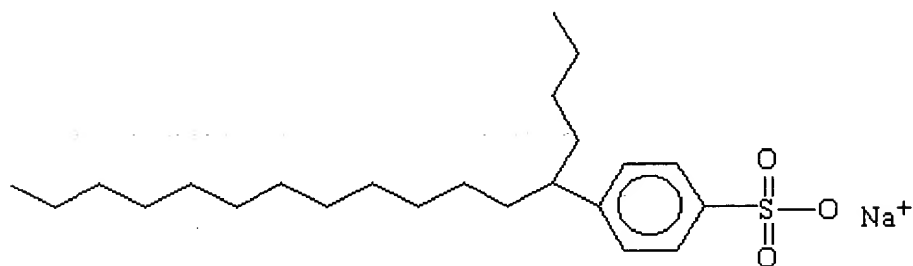
#### Alkylsulfate Surfactant



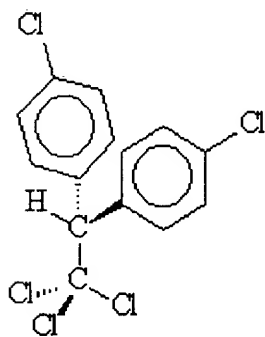
#### Alkylbenzene Sulfonate (ABS)



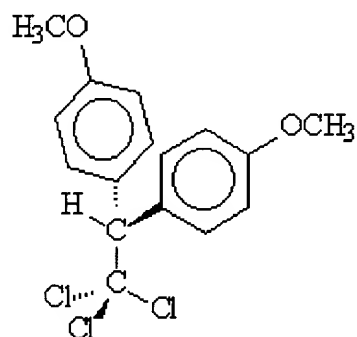
## Linear Alkyl Sulfonate (LAS)



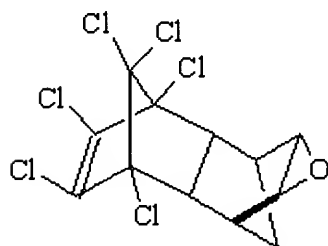
## Organochlorine Insecticides



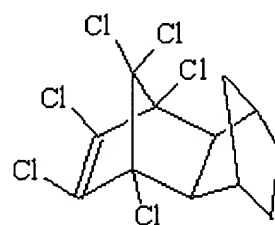
DDT



Methoxychlor



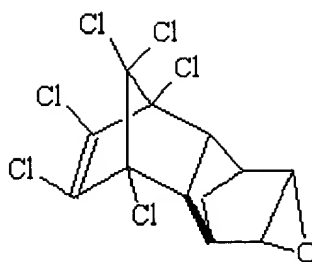
Dieldrin



Aldrin

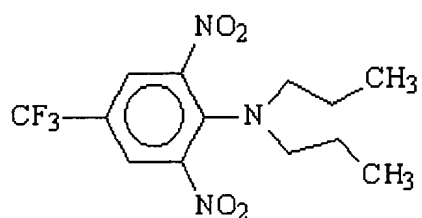
3-D structure of DDT

3-D structure of Aldrin



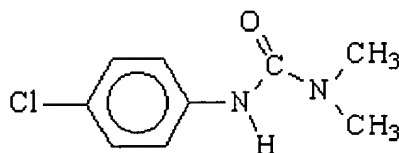
Endrin

## Nitroaniline Herbicides



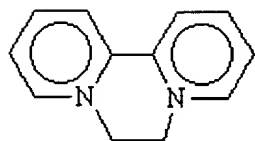
Trifluralin

## Miscellaneous Herbicides

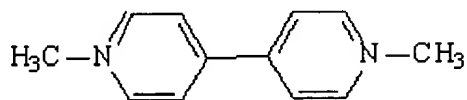


3-(4-Chlorophenyl)-1,1-dimethylurea

## Dipyridilium Herbicides

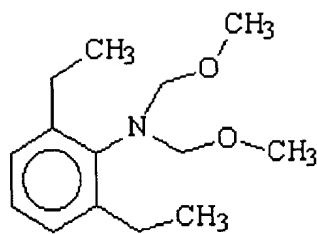


Diquat

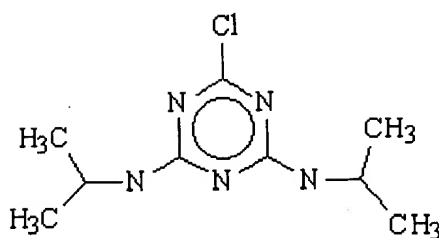


Paraquat

## Additional Common Herbicides

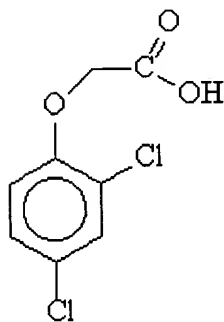


Alachlor

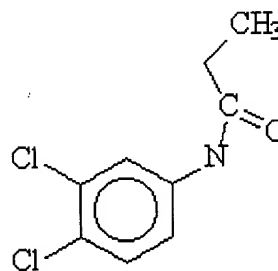


Atrazine

## Additional Common Herbicides

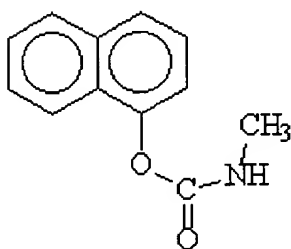


2,4-Dichlorophenoxyacetic acid

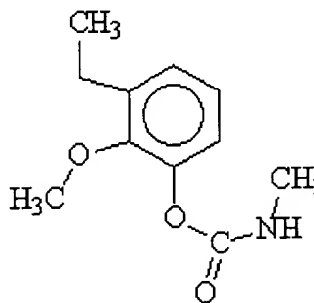


Propanil

## The Carbamate Insecticides

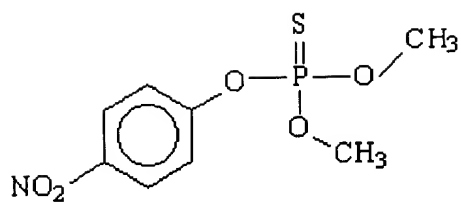


Carbaryl

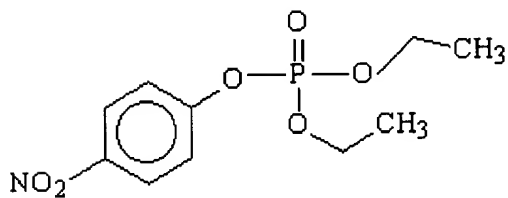


Carbofuran

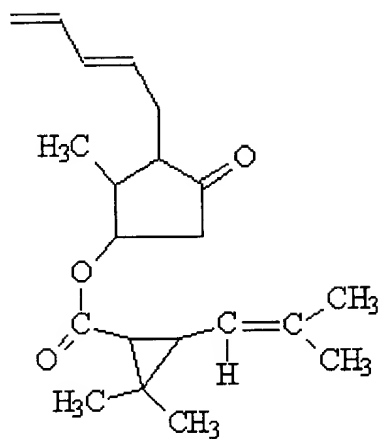
## Organophosphate Insecticides



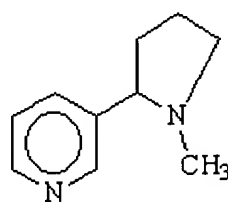
Methyl Parathion



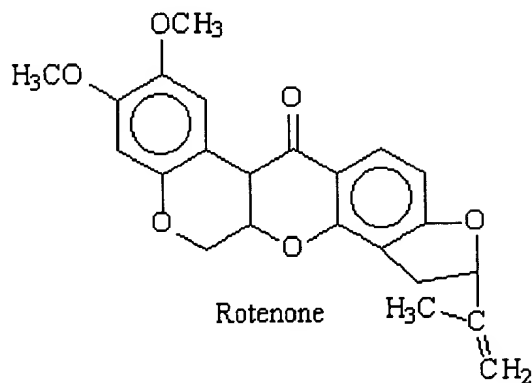
Ethyl Parathion

3-D structure of parathion**Botanical Insecticides**

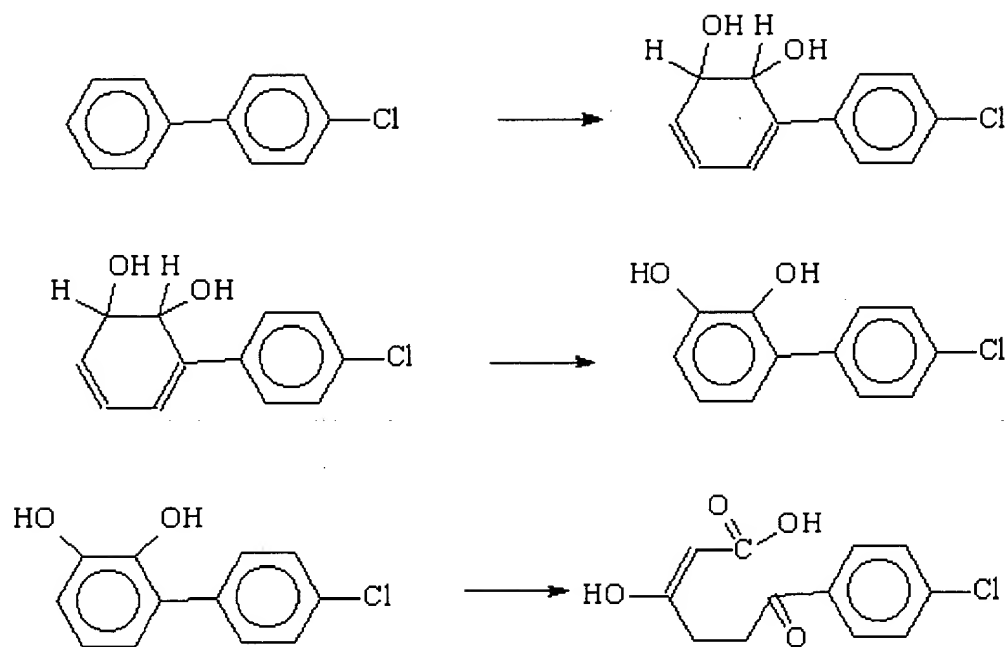
Allethrin



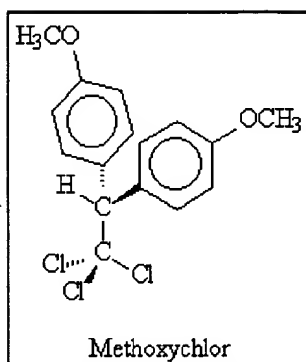
Nicotine



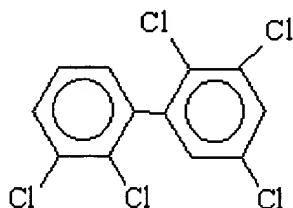
Rotenone

**ENV 440 - Course Topics***Environmental Chemistry -- ENV 440**Last Updated: 04/19/00*

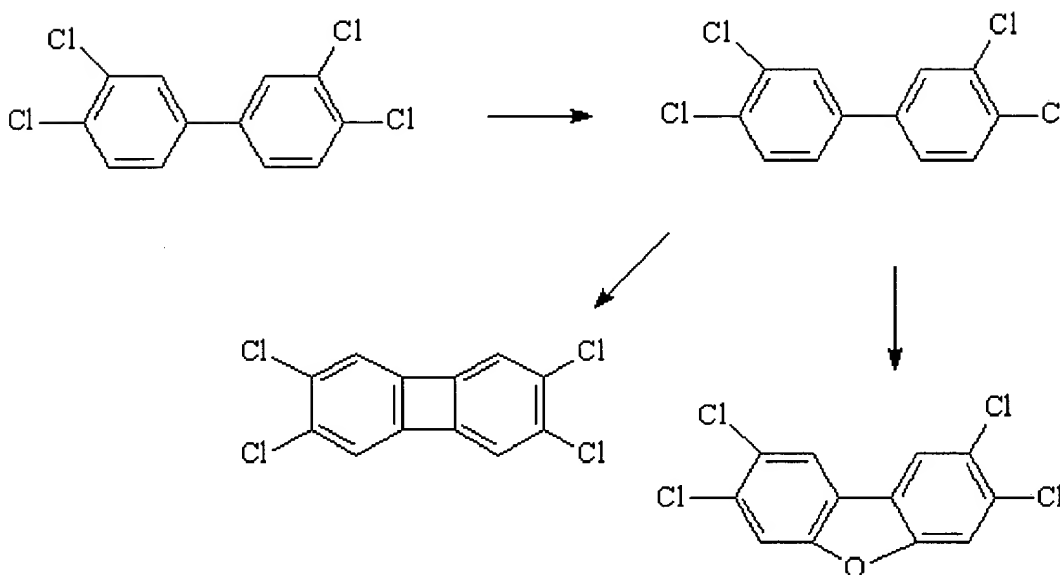
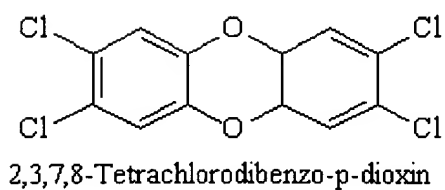
Google™

This is the image: [jan.ucc.nau.edu/~env440\\_2/lectures/lec22/fig22.6.gif](http://jan.ucc.nau.edu/~env440_2/lectures/lec22/fig22.6.gif)[Remove Frame](#)[Back to Results](#)*Image has been scaled down. [See full-size image.](#)**This image may be subject to copyright.*

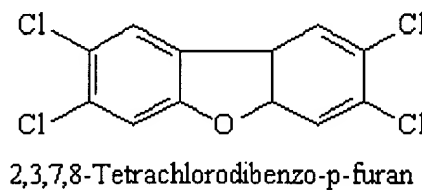
Below is the image in its **original context** on the page: [jan.ucc.nau.edu/~env440\\_2/lectures/lec22/lec22.html](http://jan.ucc.nau.edu/~env440_2/lectures/lec22/lec22.html)

3-D structure of nicotine**Polychlorinated Biphenyls**

Polychlorinated Biphenyl

3-D structure of biphenyl (without chlorine atoms)**Dioxins and Furans**

2,3,7,8-Tetrachlorodibenzo-p-dioxin



2,3,7,8-Tetrachlorodibenzo-p-furan

**Environmental Degradation of PCBs**